DVR5100 Series
Hybrid Video Recorder

C1696M-B (11/08)

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Regulatory Notices

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

To maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and television reception.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Video Quality Caution

FRAME RATE NOTICE REGARDING USER-SELECTED OPTIONS

Pelco systems are capable of providing high quality video for both live viewing and playback. However, the systems can be used in lower quality modes, which can degrade picture quality, to allow for a slower rate of data transfer and to reduce the amount of video data stored. The picture quality can be degraded by either lowering the resolution, reducing the frame rate, or both. A picture degraded by having a reduced resolution may result in an image that is less clear or even indiscernible. A picture degraded by reducing the picture rate has fewer frames per second, which can result in images that appear to jump or move more quickly than normal during playback. Lower frame rates may result in a key event not being recorded by the system.

Judgment as to the suitability of the products for users' purposes is solely the users' responsibility. Users should refer to the operation manuals for cautionary statements regarding user selected options and how they might affect video quality. Users shall determine the suitability of the products for their own intended application, picture rate and picture quality. The video analytic behaviors provide a large spectrum of settings that allow the behaviors to be used in a variety of applications. Selection of appropriate settings for proper detection in user applications is the sole responsibility of users. This equipment is intended to assist users in identifying situations of interest to users. Users have the sole responsibility of determining the appropriate response. In the event users intend to use the video for evidentiary purposes in a judicial proceeding or otherwise, users should consult with their attorney regarding any particular requirements for such use.

About the DVR5100 Series Hybrid Video Recorder

The DVR5100 Series is an embedded, high-performance hybrid digital video recorder (DVR), capable of recording up to 20 cameras at a combined 600/500 images per second (NTSC/PAL) at 4CIF resolution. The DVR comes with a choice of 4, 8, or 16 analog camera inputs, and 16, 12, or 4 IP camera inputs, respectively. Finally, the DVR5100 can be integrated into a fully distributed Endura® system, allowing for centralized monitoring and management in a scalable and expandable IP surveillance system. The DVR5100 combines all of these features with efficient configuration, intuitive operation, and cutting-edge storage optimization technologies in a mainstream DVR.
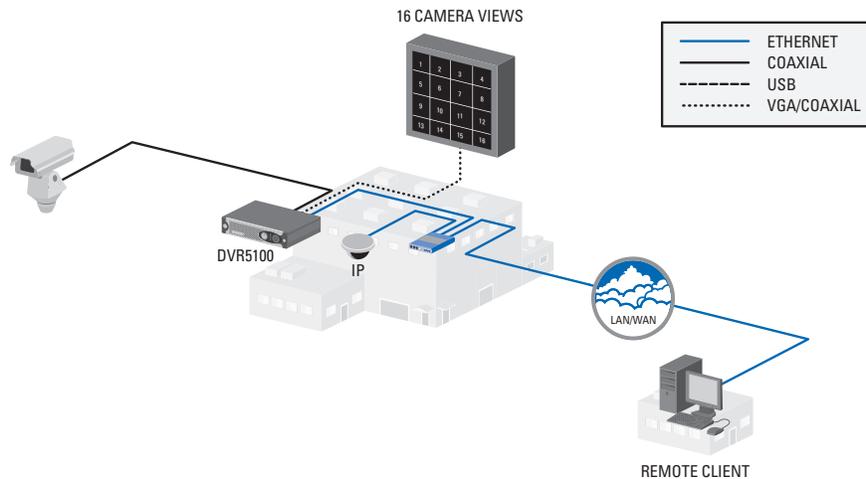
IMPORTANT NOTE: PLEASE READ. The network implementation is shown as a general representation only and is not intended to show a detailed network topology. Your actual network will differ, requiring changes or perhaps additional network equipment to accommodate the system as illustrated. Please contact your local Pelco representative to discuss your specific requirements. As shown above, one DVR5100 Remote Client application can access one DVR at a time. Each DVR5100 can support up to three simultaneous remote client connections.

Figure 1. DVR5100 Network Diagram

The hybrid capability of the DVR5100 offers a cost-effective way to service existing analog cameras while providing expansion through the use of new IP cameras. By leveraging existing IP networks and taking advantage of technologies such as Power over Ethernet (PoE), IP cameras provide an attractive alternative to deploying analog cameras. The DVR5100 Series supports the following camera options:

- **DVR5104:** Records 4 analog cameras and up to 16 IP cameras.
- **DVR5108:** Records 8 analog cameras and up to 12 IP cameras.
- **DVR5116:** Records 16 analog cameras and up to 4 IP cameras.

The DVR5100 supports a wide array of Pelco IP cameras. With the ability to record analog and IP cameras, systems can be designed to service existing cameras while laying the groundwork for future expansion.

Endura system integration creates a powerful growth path for DVR users. The DVR5100 can easily become a systemized component of the Endura system. When integrated, the DVR5100 will continue to provide local access to its cameras. In addition, an Endura workstation, decoder, or VCD5000, can monitor and control any camera, alarm, or relay connected to any DVR5100 in a full virtual matrix application. DVR5100s are administered and managed through the Endura workstation; user rights and permissions can be established at each DVR5100 for local access.

The DVR5100 features innovative configuration options and tools that can significantly decrease the amount of time and effort required to deploy a unit. Connect the supplied USB keyboard and mouse to the DVR5100 and configuration becomes as easy as a Windows®-based DVR. Take advantage of carefully laid out menus to intuitively navigate through the configuration process. Leverage the built-in storage estimator and automatic camera configuration options to instantly program the DVR's recording behavior in support of a required retention target.

Convenient front panel controls, combined with a heads-up icon-based user interface, make operating the DVR5100 easy. The icon-based user interface and color coordinated function keys on the front panel help to reduce the learning curve. The USB keyboard, mouse, and the front panel controls allow operation of Pelco pan/tilt/zoom (PTZ) cameras through either Coaxitron®, Pelco D, or Pelco P protocols. Live video can be paused, rewound, or fast-forwarded with the push of a button. A single-button operation opens search screens that allow near instant access to video that is required for investigations. A single-button export feature simplifies the exporting of digitally signed video, along with the player, onto the included CD/DVD writer or user-supplied USB memory device.

The DVR5100 delivers enterprise-class video recording performance to the mainstream DVR market. To support high-performance, while keeping the total cost of ownership within budget constraints, the DVR5100 uses the EnduraStor™ storage optimization technology. EnduraStor allows video, recorded at higher frame rates, to be reduced to a lower rate after a user-defined period of time. This saves valuable hard disk drive space and makes real time video available for search, playback, and export during the delay period. Instead of reverting to time-lapse recording to

achieve longer retention periods, EnduraStor records and retains real-time video for the designated delay period. Alarm or event video is automatically saved at the higher recorded rate. EnduraStor makes real-time video available when you need it most, while keeping storage costs under control.

Flexible view options allow you to display superior video on a variety of monitors. Video can be displayed on NTSC/PAL composite, NTSC/PAL, S-Video, or VGA monitors. The main monitor can display 1, 4, 9, or 16 images. Live and playback video can be combined on the same monitor simultaneously, allowing you to observe the scene while conducting a search on recorded video. In addition, a programmable sequence monitor provides a sequencing display for the analog cameras to a composite monitor.

For remote viewing and administration, the DVR5100 provides unparalleled sophistication and flexibility. Designed to protect the system and sensitive video content from unauthorized access, remote access is tightly controlled and protected through a built-in VPN server. The free remote client software provides bandwidth throttling upon each connection to the DVR. Clients with limited Internet speed will not impact users with more bandwidth if all connect to the DVR at the same time. The remote client adds additional sophistication to the DVR5100. Custom user profiles can be created on the remote client that provide extremely fine granularity on user rights and permissions. Event groups can be created that incorporate multiple alarm conditions, providing an effective means of filtering out potential false alarms. Finally, complex scripts can be written that coordinate the response of the DVR to a given alarm or event trigger.

The combination of enterprise-class recording performance, cutting-edge storage optimization technologies, efficient and intuitive configuration and operation, and flexible upgrade paths that enhance the ROI, make the DVR5100 the ideal solution for retail, finance, education, corporate, and commercial security applications.

NOTE: The DVR5100 can operate as a stand-alone or networked device. If the DVR5100 is going to be included in an existing network, always include your network administrator when planning and installing the DVR5100.

NEW PRODUCT FEATURES

The DVR5100 Series 1.5 release has been enhanced with the following new features:

Table A. New and Enhanced DVR5100 Features

New Feature	Description
Modified User Interface	New menus and options make configuration and operation easier and more intuitive. In addition, the system can be operated through the included USB PC keyboard and mouse.
IP Camera Recording Capability	The DVR5100 Series now supports hybrid recording capability. Each DVR5100 can support up to 20 cameras, with 4, 8, or 16 (depending on the model) analog cameras and the balance made up of IP cameras.
Integration with Endura Systems	The DVR5100 can also be integrated into an Endura network by an Endura-certified integrator.

Getting Started

This manual describes how to operate the DVR5100 to view and record live video, search for recorded video and mark or lock it for future use, and to operate or adjust cameras. For information on installing and configuring the unit, refer to the DVR5100 Series Hybrid Video Recorder Installation manual (C1695M). Refer to *Appendix A: Front Panel Indicators* on page 49 for detailed information on the DVR5100 front panel.

LOGGING ON

AUTOLOGIN

Each time you start the DVR5100, the system automatically begins a 60-second counter. This feature allows the system to automatically log on the designated user each time the DVR is rebooted (for example, after a power failure or when the unit is restarted for any reason). An administrator can enable or disable the autologin feature from the General System setup screen. In addition, the user account and the timing can be changed for subsequent autologins. Once the time counts down to zero, the designated user is logged on. To interrupt the autologin process or log on as a different user, follow the steps below. The default user is "admin."

Figure 2. Autologin Dialog Box

Table B lists the default user IDs, passwords, and role descriptions.

Table B. Default User IDs and Passwords

User ID	Password	Role Description
admin	admin or 23646	The Administrator can access all of the DVR5100 features and is the only user level with permission to modify every option and value in the Setup page.
manager	manager or 6262437	The Manager can monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, search for video, play it back, lock clips, capture snapshots, export video, and view all of the Setup windows.
operator	operator or 67372867	The Operator can monitor live video and audio, reposition PTZ cameras, respond to alarms, run scripts, activate relays, and search for and play back video.
guest	guest or 48378	The Guest can monitor live video and audio, change layouts, and reposition PTZ cameras.

NOTE: Contact your DVR5100 system administrator to set up additional users and roles or to obtain help with passwords.

LOGGING ON WITH THE KEYBOARD AND MOUSE

To log on using the keyboard and mouse:

1. Select a user from the User ID list.

2. Click in the Password box, and then type the password.

3. Click Log In to accept the user name and password. If the password is correct, the DVR5100 displays the main application window.

LOGGING ON WITH THE CONTROL PAD

Table C provides control pad functions at logon if a keyboard and mouse are not connected.

Table C. Special Login Controls

Control Pad	Functions
Jog (inner dial)	Cycles through the list of users (by default, the options are admin, guest, manager, and operator).
Blue function button	Press to display the on-screen password keypad (refer to the keypad instructions in this table).
Green function button	Press to log on to the DVR5100 once the password is entered.
Red function button	Press to shut down the DVR5100 once the password is entered.
When on-screen password keypad is open:	
Joystick	Navigates up, down, left, and right through the keypad's number grid.
Enter/Shift	Enters the currently selected number into the password box.
Green function button	Saves the entered password, and then closes the keypad.
Red function button	Clears the entered password, and then closes the keypad.

To log on using the control pad:

1. Turn the Jog (inner dial) to select the user name.

2. Press the blue function button; the on-screen keyboard appears.

3. Use ![joystick] to navigate to the first number of your password, and then press ![enter].

4. Repeat these steps until you have entered the entire password.

5. Press ![blue button] to accept the password, or press ![red button] to cancel the password and return to the Login dialog box.

6. From the Login dialog box, select Log In to accept the user name and password.

SHUTTING DOWN

⚠ **WARNING:** Do not shut down the DVR5100 by turning off the power. Doing so can cause data loss or may corrupt the database. Always follow the procedures in this section to turn off the unit.

Use the following steps to shut down the DVR5100. For security purposes, the DVR5100 can be shut down only if you have Administrator level permissions.

1. From the Login screen, select the admin user ID, and then enter the appropriate admin password.

2. Select Shut Down to power off the system.

3. If you are already logged on, use the on-screen menus to log off, and then follow the steps above (refer to *Understanding DVR5100 Controls and Menus* on page 12).

4. The DVR5100 saves all configuration information and recorded video and then shuts down.

LOGGING OFF

You can log off from the system without shutting down the unit. This allows the DVR5100 to continue recording while preventing unauthorized access to the unit.

NOTE: Autologin must be disabled to log off from the system without shutting down the unit. With autologin disabled, the Login dialog box remains on the screen and you or another operator can log back on to the system. While you are logged off, the system continues to record as configured.

To log off:

- From the Main menu, click Logout ➡. The Login dialog box appears and the system closes your work session.
- If you do not have a mouse, use the Joystick ● to navigate to Logout, and then press Enter/Shift ⬭.

Understanding DVR5100 Controls and Menus

The DVR5100 is menu-driven and can be operated using any of the following options:

- **USB PC keyboard and mouse:** A USB PC keyboard and mouse are now provided to configure and operate the DVR5100, which is the easiest way to operate the unit. A template is provided as a quick reference for keyboard shortcuts (refer to Figure 3).
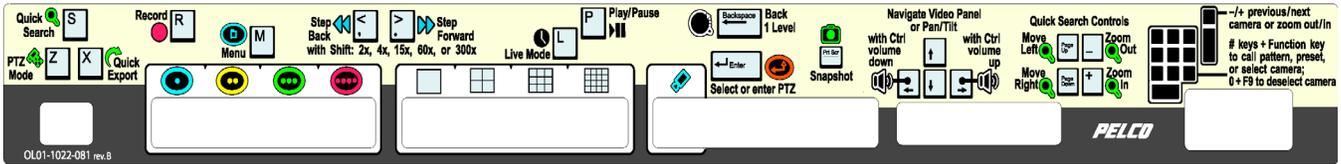
Figure 3. USB PC Keyboard Template

- **DVR5100 control pad:** If it is not convenient to use a USB PC keyboard and mouse for your installation, you can use the front panel controls to operate the DVR5100 (refer to Figure 4).

NOTES:

- Directions for configuring and operating the DVR5100 are given for the USB PC keyboard/mouse and the control pad. Throughout this document, the first part of the instructions refer to the keyboard and mouse, followed by instructions in brackets (**[ ]**) for the control pad.
- Refer to Table D on page 14 through Table G on page 16 for detailed functional descriptions of the DVR5100 control pad.
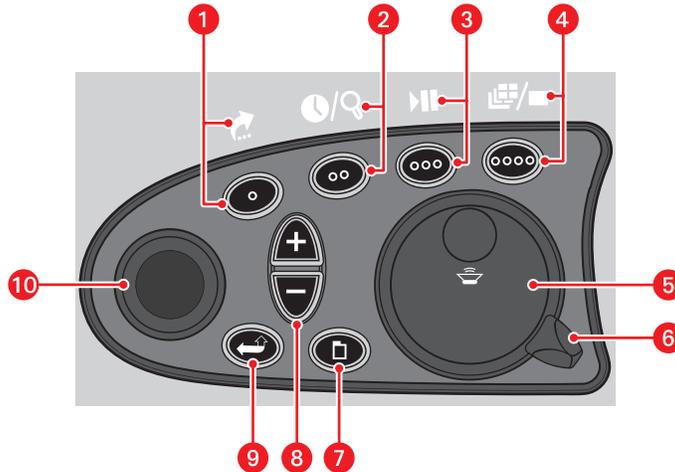
Figure 4. DVR5100 Front Panel Control Pad

❶	(icon)	**Blue Function Button:** • Active when on-screen menus are displayed (selects blue menu items). • "Quick Export" when on-screen menus are not displayed.
❷	(icon)	**Yellow Function Button:** • Active when on-screen menus are displayed (selects yellow menu items). • "Go to live" when on-screen menus are not displayed. • Press and hold for Quick Search when on-screen menus are not displayed.
❸	(icon)	**Green Function Button:** • Active when on-screen menus are displayed (selects green menu items). • "Play/Pause" when on-screen menus are not displayed.

❹		**Red Function Button:** • Active when on-screen menus are displayed (selects red menu items). • "Change layout" when on-screen menus are not displayed. • Press and hold for full screen when menus are not displayed.
❺		Jog (inner dial)
❻		Shuttle (outer ring)
❼		Menu
❽		Plus (+)/Minus (−) buttons
❾		Enter/Shift
❿		Joystick

- **DVR5100 remote client:** For advanced programming and remote access, use the DVR5100 remote client application. Refer to the DVR5100 Remote Client Operation manual (C1697M) for more information.

APPLICATION MODES

Figure 5 illustrates the various application modes (live view, menu, PTZ, and playback). For example, when you are in live view mode, the video pane is surrounded by a green border.

Live View Mode

Menu Mode
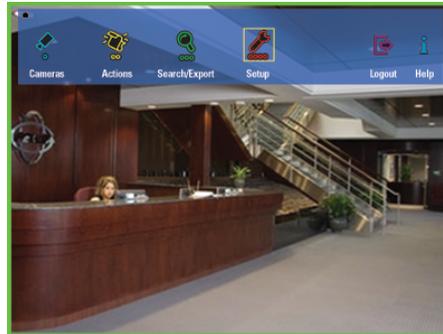
PTZ Mode

Playback Mode

Figure 5. Video Pane Modes

USB PC KEYBOARD/MOUSE AND CONTROL PAD FUNCTIONS

Table D describes the USB PC keyboard/mouse and the DVR5100 front panel controls that are available when you view live or recorded video with no on-screen menus visible. Live video is indicated by a green border, recorded video is indicated by a yellow border, and PTZ mode is indicated by a blue border. Refer to Table E on page 15 for information on the front panel controls for PTZ mode.

NOTE: The Main menu can only be accessed in live view mode.

Table D. Live and Playback Controls *(1 of 2)*

Keyboard	Control Pad		Function
Right, Left, Up, and Down Arrows		Joystick	Navigates to a different video pane.
F5–F8		Change layout	**Keyboard:** Press F5 (1 x 1), F6 (2 x 2), F7 (3 x 3), and F8 (4 x 4) to change the screen layout. Left-click twice to change to a full-screen configuration. **Control pad:** • Press "Change layout" to toggle the screen layout from 1 x 1, 2 x 2, 3 x 3, and 4 x 4 display layouts. • Press and hold "Change layout" to jump straight to single/full-screen video for the currently selected camera.
Plus (+)/Minus (-)		Plus (+)/Minus (-)	Press plus (+) to display the next camera in the sequence in the currently selected video pane. Press minus (-) to display the previous camera in the sequence.
Numeric keypad + F9		Menu + Blue function + Blue function	**Keyboard:** Type the desired camera number, and then press F9 to jump directly to that camera. **Control pad:** Opens the Camera Selection dialog so that you can choose a specific camera without cycling through the sequence.
0 (zero) + F9	N/A		• Type 0 (zero), and then press F9 to disconnect a camera. • Right-click in a video pane (live view mode) for the shortcut menu, and then click Disconnect.
< or , (comma) > or . (period)		Jog (inner dial)	**Keyboard:** Press < or , (comma) to step backward or > or . (period) to step forward. **Control pad:** Turn the Jog (inner dial) counterclockwise to step backward or clockwise to step forward.
< or , (comma) > or . (period)		Shuttle (outer ring)	**Keyboard:** Press < or , (comma) for fast rewind, > or . (period) for fast forward. **Control pad:** Turn the Shuttle (outer ring) counterclockwise for fast rewind or clockwise for fast forward. To increase speed, turn the Shuttle (outer ring) further in the desired direction.
Shift + < or , (comma) Shift + > or . (period)		Enter/Shift Play/Pause Shuttle (outer ring)	**Keyboard:** Press the Shift key while repeatedly pressing < or, (comma) > or . (period) to rewind or fast-forward to lock in the current speed (2x, 4x, 15x, 60x, or 300x). Press P to cancel the speed setting. **Control pad:** Press Enter/Shift while using the Shuttle (outer ring) to rewind or fast-forward to lock in the current speed (2x, 4x, 15x, 60x, or 300x). Press "Play/Pause" or turn the Shuttle (outer ring) to cancel the speed setting.
L		Go to live	Press L or "Go to live" to switch from viewing recorded video to viewing live video from the currently selected camera.
S		Quick Search	**Keyboard:** Press S to open the Quick Search dialog box. **Control pad:** Press and hold the Quick Search function button for 3 seconds to open the Quick Search dialog box.

Keyboard	Control Pad	Function
P	▶❚❚ Play/Pause	Press P or Play/Pause to toggle between playback and pause. You can press P or Play/Pause while viewing live video.
Ctrl + Left arrow, Ctrl + Right arrow	Enter/Shift + Jog (inner dial)	**Keyboard:** Press Ctrl + the left or right arrow to turn the volume up or down. **Control pad:** Press and hold Enter/Shift while turning the Jog (inner dial) to adjust the volume.
R	N/A	Starts or stops recording in the currently selected video pane.
Print Scrn	Menu + Green function + Green function	Captures a snapshot (still video image) and saves it to a USB memory device.

Table E describes the keyboard and front panel controls that are available when controlling PTZ on a selected camera, when no on-screen menus are visible. Press Enter/Shift to enter PTZ mode, which is indicated by a blue border around the currently selected video pane. You cannot change cameras or navigate to a different video pane in this mode.

NOTE: You must be in live mode to activate PTZ. You cannot activate PTZ while in video playback.

Table E. PTZ Controls

Keyboard	Control Pad	Function
Z or Enter	Enter/Shift	Press and release to enter or exit PTZ mode.
Plus (+) and Minus (-)	Plus (+)/Minus (-) buttons	Press plus (+) to zoom in. Press minus (-) to zoom out.
Right, Left, Up, Down Arrows	Joystick	Controls the PTZ camera pan (right/left) and tilt (up/down).
Z or Enter	Enter/Shift	In PTZ mode, press Z or Enter [or Enter/Shift] to automatically switch the selected camera back to live or playback mode.

Table F describes the keyboard and front panel controls available when a menu or dialog is on the screen (Menu mode).

Table F. Menu Controls *(1 of 2)*

Keyboard	Control Pad	Function
M	Menu	Shows or hides on-screen menus.
Esc (Escape)	Red function button	Closes the current dialog box.
Tab, Right/Left arrow	Joystick	Moves to the next item in a menu or field in a dialog.
Enter	Enter/Shift	Selects the currently selected menu item.
F1	Blue function button	Selects the blue item on the current menu or dialog.
F2	Yellow function button	Selects the yellow item on the current menu or dialog.
F3	Green function button	Selects the green item on the current menu or dialog.
F4	Red function button	Selects the red item on the current menu or dialog.

Table F. Menu Controls *(2 of 2)*

Keyboard	Control Pad		Function
Up/down arrow, Page up/down		Jog (inner dial)	Scrolls through different options in a list or drop-down menu.
Backspace		Shuttle (outer ring)	Backs up one menu level. If a text field is selected, this function moves the cursor through the letters in the field.
Plus (+) and Minus (-)		Plus (+)/Minus (-) buttons	In a number field, press plus (+) to increase the value or press minus (-) to decrease the value.
Alphanumeric keypad		Blue function button + Jog (inner dial) [for Keypad only]	Use any alphanumeric key on the keyboard to enter information in a text box such as a password, IP address, comment, or other field. Do not enter characters that are not valid for the currently selected field. Refer to the specific field instructions for guidelines on valid entries. Refer to the descriptions in this table for additional functions for specific characters.

Table G describes the keyboard and front panel controls available when using the Quick Search dialog.

Table G. Quick Search and Export Controls

Keyboard	Control Pad		Function
S		Quick Search	**Keyboard:** Press S to open the Quick Search dialog box. **Control Pad:** Press and hold the Quick Search function button for 3 seconds to open the Quick Search dialog box. **NOTE:** You can also open Quick Search by navigating through the menus: Menu + green function button + blue function button.
Right or Left Arrows, Page Up, Page Down		Jog (inner dial)	Moves the timeline slider to the right or the left.
Plus (+) and Minus (-)		Plus (+)/Minus (-) buttons Jog (inner dial) Shuttle (outer ring)	**Keyboard/Control Pad:** Press plus or minus to zoom in or out on the Quick Search timeline. Zoom levels are year, month, week, day, hour, minute, and second. **Control Pad:** Rotate the Jog (inner dial) to move the timeline slider to the right or left. Rotate the Shuttle (outer ring) to zoom in or out on the timeline.
X		Quick Export	Displays or hides the Quick Export menu. Options include Export Video, Mark, and Snapshot.
M		Menu	From the Quick Search dialog box, view more Quick Search options.

DISPLAYING AND HIDING THE SYSTEM MENUS

Once logged on, press the "M" key [or Menu (⬛)] to display or hide the on-screen menus. Refer to Figure 12 to view the Main menu hierarchy.

Figure 6. DVR5100 Main Menu

NAVIGATING TO AND SELECTING A MENU ITEM

USB KEYBOARD/MOUSE

To select a menu item using the USB PC keyboard/mouse:

1. Click the item with your mouse, or use the right or left arrow key, and then press Enter. The yellow cursor denotes the selected menu item.

2. You can also select one of the four colored-coded icons by pressing F1 (blue), F2 (yellow), F3 (green), or F4 (red).

3. Click the Back icon to return to a previous menu.

CONTROL PAD

Opening or Closing a Menu

1. To open an on-screen menu, press Menu (⬛). The on-screen menu you were previously using appears.

2. To close an on-screen menu, press Menu (⬛). The on-screen menu disappears.

Navigating to a Menu Item

1. Use the Joystick to move left or right to a menu item. The yellow cursor denotes the selected menu item.

2. Press Enter/Shift (⬛) to select the selected menu item.

Selecting a Menu Item

The DVR5100 control pad contains four color-coded function keys. The color of each button corresponds to the on-screen menu items displayed in the DVR5100 menus, screens, and dialog boxes. This color-matching design lets you navigate the on-screen menus without looking down to read keyboard text labels. The colors always appear in the same order from left to right: blue, yellow, green, and red.

Figure 7. Control Pad Color-Coded Function Keys

Press the color-coded function button that corresponds to the on-screen menu item. For example, to select the blue icon on the screen, press the blue function button on the DVR5100 control pad.

Returning to a Previous Menu

There are three ways to return to a previous or higher level menu: To return to a previous menu, use the Joystick to move to the on-screen Back icon, and then press Enter/Shift (⟳).

- Turn the Jog (inner dial) to the right or left until you select the Back icon on the screen, and then press Enter/Shift.

- Move the Joystick (●) to the on-screen Back icon, and then press Enter/Shift.

- Turn the Shuttle (outer ring) (◯) counterclockwise.

The icon path at the top of the menu bar displays which menu icons were selected to arrive at your current location.

Figure 8. Sample Icon Path

DISPLAYING AND HIDING ONLINE HELP FOR THE CONTROL PAD

To open the Help dialog box:

1. Open the Main menu.

2. Select Help. The Help & Information dialog box appears (refer to Figure 9).

Figure 9. Help Menu

3. Click Help. The DVR5100 online Help dialog box for the control pad appears.

   [Or, select Help, and then press Enter/Shift (⟳), or press the blue function button (●).]
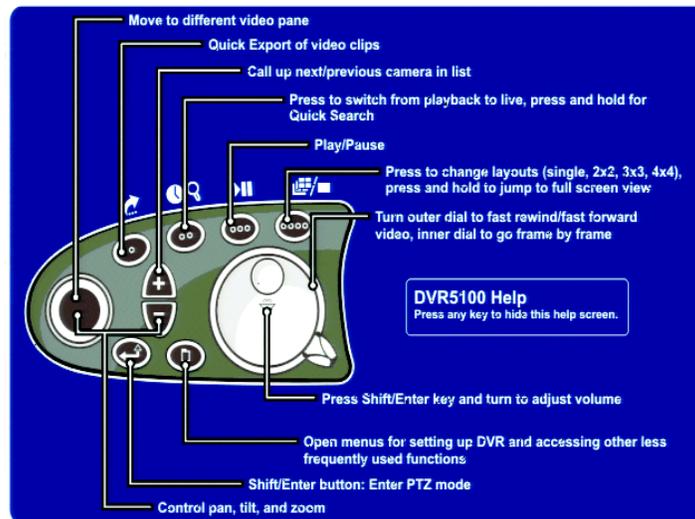
Figure 10. Control Pad Online Help Dialog Box

4. Press any key to hide the online Help dialog box.

DISPLAYING SYSTEM INFORMATION

The System Information screen provides details that are useful for troubleshooting your unit and for communicating with the Pelco Product Support team.

To open the System Information dialog box:

1. Open the Main menu.

2. Click Help [or press the yellow function button 🔘] (refer to Figure 9). The Help & Information dialog box appears.

3. Click System Info. The DVR5100 System Information dialog box appears.

   [Or, press the blue function button 🔘 , and then press Enter/Shift 🔘 .]

4. Select OK after reviewing this information.
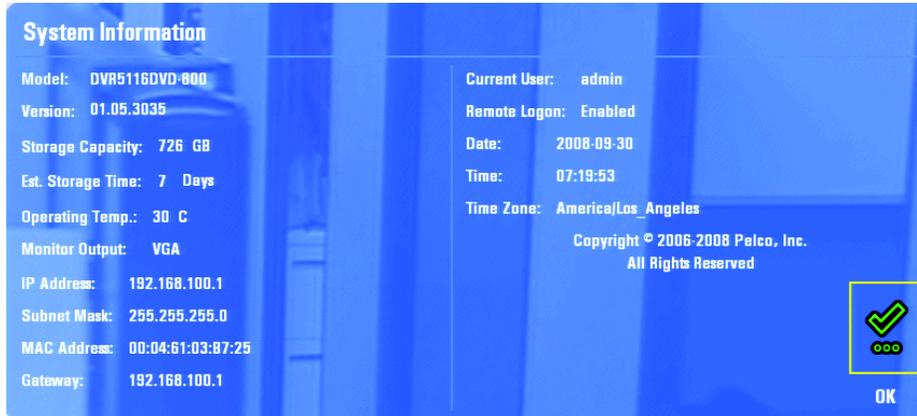
Figure 11. System Information

ON-SCREEN MENUS

The DVR5100 on-screen menu hierarchy displays only those menus for which you have permission. Depending on your user role, you might see all available menus or only a few. The default user roles are Administrator, Manager, Operator, and Guest. The menu descriptions in this section are based on the Administrator role, which has access to all menus and functions. Figure 12 shows the DVR5100 menu hierarchy.

NOTE: Contact your system administrator if you need authorization to access additional menus.
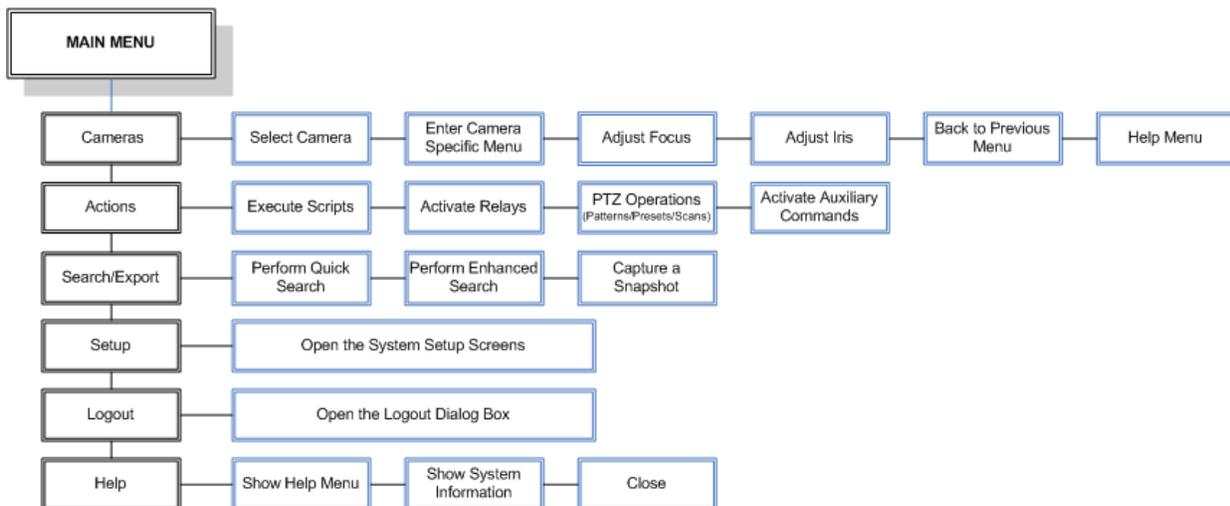
Figure 12. DVR5100 Menu Hierarchy

SHORTCUT MENUS

Some DVR5100 functions are available through shortcut menus. Right-click in any part of the application window to access the shortcut menus for that location. Figure 13 shows an example of a shortcut menu and submenus. Other shortcut menus are discussed in *Operating the DVR5100* on page 21 and *Working with Cameras* on page 42.

Figure 13. Shortcut Menu and Submenus

SUBMENUS

Shortcut menus may have one or more items with a symbol (▶) beside it. The symbol indicates that a menu has additional options. Once the submenu appears, move your cursor over an item with a symbol, and then select a submenu item.

To hide the menus and submenus, click another part of the video pane.

Operating the DVR5100

The USB keyboard and mouse, and the DVR5100 control pad, provide access to most DVR5100 features and functionality.

MONITORING LIVE VIDEO

The DVR5100 starts in live video mode. The following information describes how to work in this mode.

NOTE: Video panes display the cameras and layouts selected from the last logon.

SELECTING A VIDEO PANE

When you start the unit and display a layout with several video panes, the upper-left video pane is selected by default. To select a different video pane, click in another video pane with the mouse, or use the keyboard arrow keys [or the Joystick ⦿] to move left, right, up, and down. The border of the currently selected video pane changes color to reflect the current operating state of the DVR5100.

- **Green:** Indicates the camera is in live view mode (currently selected video screen).
- **Yellow:** Indicates the camera is in playback mode.
- **Blue:** Indicates that PTZ mode is enabled in the video pane.
- **Red:** Indicates that manual recording is in progress in the video pane.

CHANGING SCREEN LAYOUT

The screen layout can be changed by pressing the F5–F8 keys. [Or, each time the Change Layout function button is pressed, one of four screen layouts is displayed].

- ▣ **Full-screen view (1 x 1):** Press F5 [or "Change layout"] to display a single video pane. You can also double-click the left mouse button in the live view mode pane for a full-screen configuration.
- ▦ **Four-camera view (2 x 2):** Press F6 [or "Change layout"] to display 4 video panes in rows of two.
- ▦ **Nine-camera view (3 x 3):** Press F7 [or "Change layout"] to display 9 video panes in rows of three.
- ▦ **Sixteen-camera view (4 x 4):** Press F8 [or "Change layout"] to display 16 video panes in rows of four.

VIEWING A SPECIFIC CAMERA

When you select a camera, its video stream is sent to the currently selected video pane. For example, if your display is set to a 2 x 2 layout and the upper-left video pane is selected, you can choose any camera to display in that video pane (refer to Figure 14). Follow the instructions below to move through the camera sequence, call up cameras by number, and disconnect cameras.

Figure 14. Displaying Video in a 2 x 2 Configuration

MOVING THROUGH THE CAMERA SEQUENCE

Although a camera is displayed in a specific video pane, you can quickly cycle through the list of cameras in the sequence.

To sequence through the list of cameras:

1. Select the video pane displaying the desired camera (refer to Figure 15).
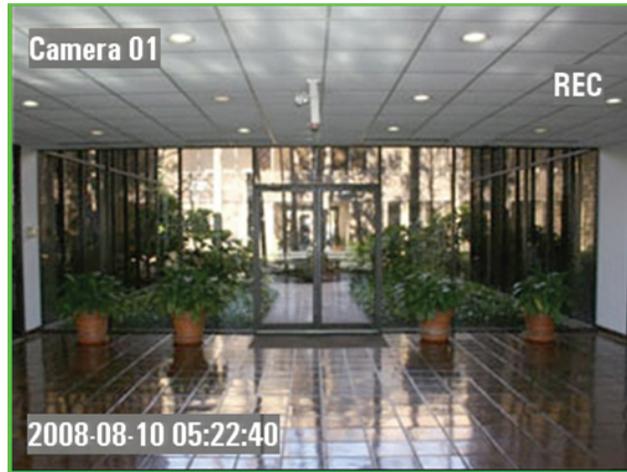
Figure 15. Displaying a Camera in a Video Pane

2. Press Plus (+) on the keyboard's numeric keypad [or ![plus icon]] to view the next camera in the sequence. Press Minus (-) [or ![minus icon]]to view the previous camera in the video pane sequence.

CALLING UP CAMERAS BY NUMBER

To call up a camera by a logical number (keyboard only):

1. Select the video pane to display the desired camera.

2. Type a camera number (the camera must be enabled).

3. Press F9. The camera is displayed in the selected video pane.

CALLING UP CAMERAS THROUGH THE CAMERAS MENU

To select a camera through the Cameras menu:

1. Select the desired video pane.

2. Press the "M" key [or Menu ![menu icon]] for the Main menu.

3. Click Cameras [or select Cameras and press Enter/Shift ![enter icon]]. The Cameras menu appears (refer to Figure 16).

Figure 16. Cameras Menu

4. Click Select Camera [or move to Select Camera using the Joystick ⬤ and press Enter/Shift ⬤]. The Camera List opens (refer to Figure 17).

Figure 17. Camera List

5. Select the desired camera and click OK. [Or, navigate to a camera using the Jog (inner dial) ⬤ and press Enter/Shift ⬤]. Video from the camera is displayed in the selected video pane.

   NOTE: A red slash through a camera icon indicates that it is currently not available.

DISCONNECTING CAMERAS

When you disconnect a camera, the video disappears from the video pane and the audio stream (if any) is disconnected.

NOTE: Disconnecting a camera does not affect its recording status. Even though a camera is not being viewed, it is still recording if it has an active recording schedule.

To disconnect a camera by number (keyboard only):

1. Navigate to the video pane displaying the desired camera.

2. Press 0 (zero), and then press F9. The camera is disconnected.

To disconnect a camera through a shortcut menu (mouse only):

1. Right-click in the selected video pane. A shortcut menu appears.

2. Select Disconnect. The camera is disconnected and video disappears from the video pane.

PTZ Operations

REPOSITIONING A CAMERA WITH PTZ CAPABILITIES

If you have a camera that supports PTZ operations, you can reposition the camera with the keyboard [or the Joystick ⬤].

NOTE: With a mouse, you can reposition a camera in both live view and PTZ mode (the camera must support PTZ).

The border surrounding a camera changes from green to blue in PTZ mode. In this mode, access to on-screen menus is disabled and the mouse, Joystick ⬤, and Plus (+) and Minus (-) perform PTZ operations. In addition to controlling a PTZ camera manually, you can reposition the camera based on predefined patterns, presets, and scan operations. Refer to *Using Patterns, Presets, and Scans* on page 26 for more information.

NOTE: You do not need to be in PTZ mode to run patterns, presets, or scans.

To reposition a camera:

1. Navigate to the video pane displaying the desired camera. The selected video pane should be in live mode, which is indicated by a green border.

2. Click in the video pane [or press Enter/Shift ⬤]. The border around the video pane changes to blue (refer to Figure 18).
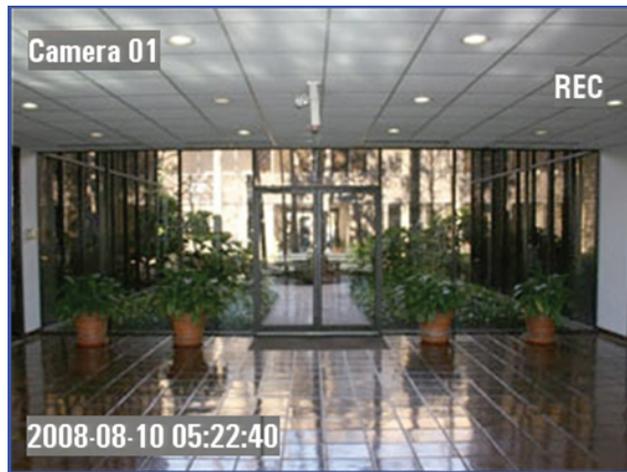
Figure 18. PTZ Mode Indicated by Blue Border

3. Use the following options to operate in PTZ mode:
   a. **Mouse:** Click in the video pane and move the mouse to pan right, left, up, and down in the current scene. Roll the mouse wheel towards the screen to zoom in, and away from the screen to zoom out.
   b. **Keyboard:** Press the left or right arrow to pan to the left or right of the current scene, and press the up or down arrow to pan up or down. Press and hold Plus (+) or Minus (-) to zoom in or out of the scene.
   c. **Control Pad:** Use the Joystick ⬤ to tilt the camera up, down, right, or left in the current scene. Press and hold Plus (+) or Minus (-) to zoom in or out of the scene.

4. Press Enter [or Enter/Shift ⬤] to return to live view mode.

NOTE: If the camera does not respond to the arrow keys or Joystick ⬤, verify that the camera protocol is configured correctly. The DVR5100 supports Coaxitron, Extended Coaxitron, and Pelco D and Pelco P protocols for cameras with PTZ control.

USING SHORTCUT CONTROLS FOR PTZ OPERATIONS

PAN TO ZERO

To pan the camera back to its zero position:

1. Right-click the video pane to display the shortcut menu (refer to Figure 19).

2. Select Operations.

3. Select "Pan to Zero." The camera is repositioned at its zero position, which is determined by the position of the camera at installation.
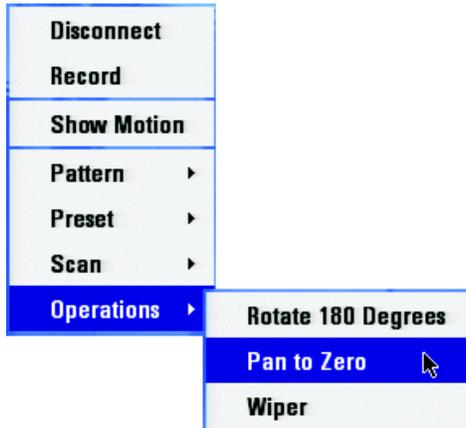
Figure 19. Pan to Zero

ROTATE THE CAMERA

To rotate the camera 180 degrees:

1. Right-click in the video pane to display the shortcut menu.

2. Select Operations.

3. Select Rotate 180 Degrees.

USING PATTERNS, PRESETS, AND SCANS

The DVR5100 allows you to activate patterns, presets, and scans automatically or manually from the DVR5100. Patterns and presets must be programmed by the system administrator before they can be executed.

PATTERNS

A pattern is a user-defined, viewable camera path with a beginning and end. The number and duration of patterns varies with different positioning systems. Refer to the documentation supplied with your cameras to determine the number of patterns that may be configured.

Programming a Pattern

To program a PTZ pattern using an on-screen shortcut menu:

1. In live view mode, right-click in a video pane that is displaying video from a camera with PTZ capabilities. A shortcut menu appears.

2. Click Pattern > Record Pattern > Modify Pattern. The Modify Pattern screen appears (refer to Figure 20).
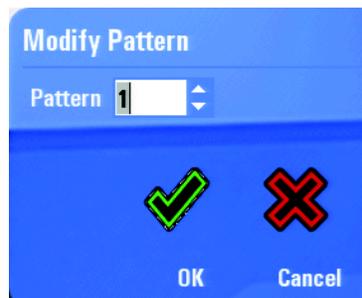
Figure 20. Selecting a Pattern

3. Enter the pattern number you want to modify and click OK.

4. Use PTZ controls to move the camera through the pattern of movements you want to record.

5. Right-click in the video pane and select Record Pattern > End Record.

Running a Pattern

To run a PTZ pattern using a keyboard/mouse or DVR5100 control pad:

1. From the Main menu, click Actions. [Or, navigate to Actions and press Enter/Shift (⊜).]
   The Actions menu appears.

2. From the Actions menu, click PTZ Operations. [Or, navigate to PTZ Operations and press Enter/Shift (⊜).]
   The PTZ Operations dialog box appears (refer to Figure 21).
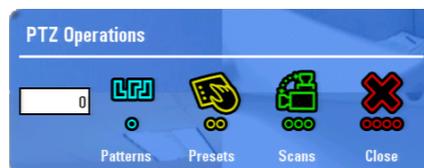
Figure 21. PTZ Operations Dialog Box

3. Click in the text field and type a pattern number.
   [Or, navigate to the text field and press Plus or Minus until the pattern number appears.]

4. Click Patterns [or press the blue function button (⊙)]. The pattern starts.

5. To exit the dialog box without activating the pattern, click Close [or press the red function button (⊙⊙⊙⊙).]

Stopping a Pattern

To stop a PTZ pattern using a keyboard/mouse, or the DVR5100 control pad:

1. Select the video pane that is displaying video from a camera running a PTZ pattern.

2. If the border of the selected video pane is green, press Enter [or Enter/Shift ⬭]. The border color changes to blue.

3. Press the keyboard arrow keys [or move the Joystick ⬤] in any direction. The pattern stops.

To stop a PTZ pattern using the on-screen shortcut menu (mouse only):

1. Right-click in the video pane of the desired camera.

2. Click Pattern > Stop Pattern (refer to Figure 22).
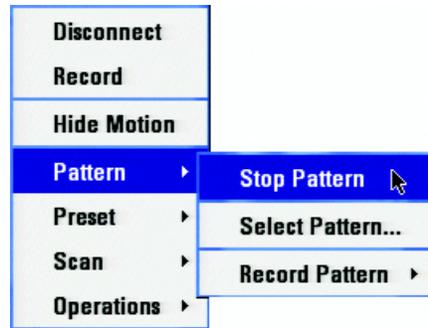
Figure 22. Stopping a Pattern

PRESETS

A preset action forces a camera with PTZ capability to reposition itself on a specific scene (for example, a door).

Recording a Preset

1. Use the PTZ controls to move the camera to the preset position you want to record.

2. Right-click in the video pane of the desired camera. A shortcut menu appears.

3. Click Preset > Modify Preset. The Modify Preset screen appears (refer to Figure 23).
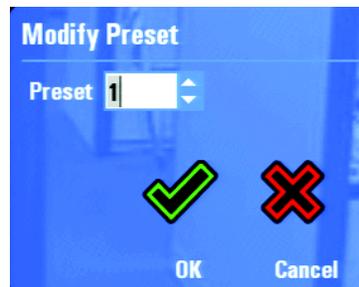
Figure 23. Modifying a Preset

4. Enter the number of the preset you want to modify and click OK.

Activating a Preset

To activate a PTZ preset using a shortcut menu (mouse only):

1. Right-click in the video pane of the desired camera. A shortcut menu appears.

2. Click Preset > Select Preset. The camera moves to the present location.

To activate a PTZ preset using the keyboard/mouse, or the DVR5100 control pad:

1. While in live view mode, select a video pane that is displaying video from a camera with PTZ capabilities.

2. From the Main menu, click Actions. [Or, navigate to Actions and press Enter/Shift (⏎).] The Actions menu appears.

3. From the Actions menu, click PTZ Operations. [Or, navigate to Actions and press Enter/Shift (⏎)] The PTZ Operations dialog box appears.

4. In the PTZ Operations dialog box, type a number in the text box, and then click Presets. [Or, navigate to the text field, press Plus or Minus to select a number, and then press the yellow function button (oo)]. The camera moves to the preset location.

5. Click Close [or press the red function button (oooo)] to close your selection without activating the preset.

SCANS

In a scan, the camera moves across the current scene from a predetermined starting point. You can select different scan options such as random, frame, and auto.

Activating Scans

To activate a scan using the keyboard/mouse, or the DVR5100 control pad:

1. In live view mode, select a video pane that is displaying video from a camera with PTZ capabilities. The video pane border is green.

2. From the Main menu, click Actions. [Or, navigate to Actions and press Enter/Shift (⏎).] The Actions menu appears.

3. Click the PTZ Operations icon. [Or, select PTZ Operations and press Enter/Shift (⏎).] The PTZ Operations dialog box appears.

4. In the PTZ Operations dialog box, type a number in the text field, and then click Scan. [Or, navigate to the text field, press Plus or Minus to select a number and press the green function button (ooo)]. The camera scans according to the actions.

5. Click Close [or press the red function button (oooo)] to close your selection without activating the scan.

To activate a scan using a shortcut menu:

1. Right-click in the video pane of the desired camera. A shortcut menu appears (refer to Figure 24).

2. Click Scan. The following options appear:
   a. **Stop Scan:** The scan is stopped.
   b. **Scan Random:** The camera pans in an irregular, unsystematic pattern.
   c. **Scan Frame:** The camera scans for 3 seconds, followed by a 3-second pause.
   d. **Scan Auto**: The camera pans continuously.
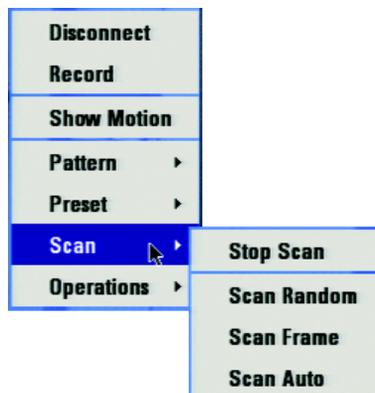
Figure 24. Scan Shortcut Menu

NOTE: You can return to a desired camera view after you select Stop Scan by selecting a Preset position.

Searching for Recorded Video

The DVR5100 offers two options to search for recorded video:

- **Quick Search:** Allows you to search for video by camera, date, and time.
- **Enhanced Search:** Allows you to search for video on multiple cameras, date and time ranges, and can be refined to include only specific recording types on specific cameras.

QUICK SEARCH

Quick Search provides a simple interface to conduct searches based on time and date for a single camera (by default, the camera you are viewing). Refer to *Commands and Features* on page 30 for descriptions of the Quick Search dialog boxes.

PERFORMING A QUICK SEARCH

To perform a quick search and play back video:

1. In live view mode, select a video pane that is displaying video from a camera.

2. From the Main menu, select Search/Export > Quick Search, and then press Enter. [Or, press the Quick Search function button (oo) for 3 seconds.] The Quick Search dialog box appears (refer to Figure 25).

   NOTE: In live view mode, press the "S" key to bring up the Quick Search dialog box.

3. Click in the timeline [or turn the Jog (inner dial)] to select a starting time. To change the timeline display, roll the mouse wheel toward or away from the screen [or turn the Shuttle (outer ring)] to zoom in or out on the timeline. Units of time increase or decrease between months and days, days and hours, hours and minutes, or minutes and seconds.
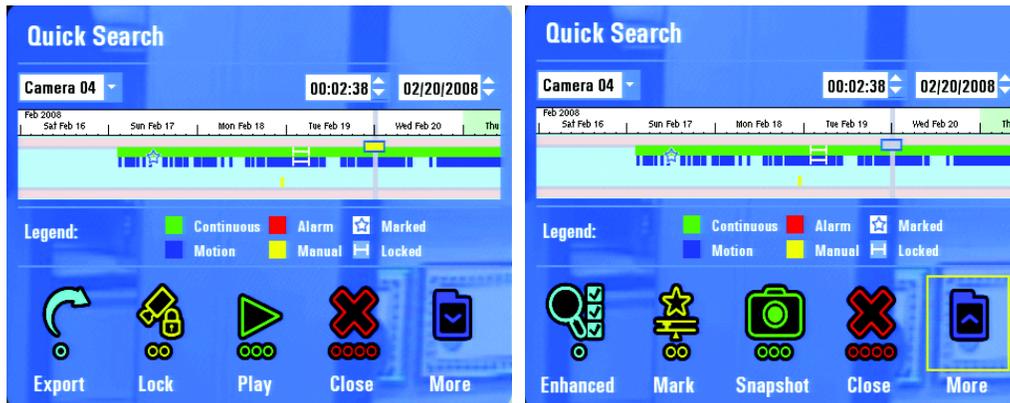
Figure 25. Quick Search Dialog Box

4. Perform one of the following options:
   - To play video and keep the Quick Search dialog box open, select Play.
   - To play video and close the Quick Search dialog box, select Play, and then click Close [or press the red function button].
   - To close the Quick Search dialog box without playing back the video, click Close [or press the red function button].

   NOTE: You can select a different camera from the camera list while remaining in the Quick Search screen.

COMMANDS AND FEATURES

The Quick Search dialog box contains the following commands and features:

Timeline: Units of time increase or decrease between months and days, days and hours, hours and minutes, or minutes and seconds. Change the units of time as follows:

- **Zoom in:** Roll the mouse wheel toward the screen [or turn the Shuttle (outer ring) ◯ clockwise] to display a smaller unit of time.
- **Zoom out:** Roll the mouse wheel away from the screen [or turn the Shuttle (outer ring) ◯ counterclockwise] to display a larger unit of time.

  Click in the timeline to move forward or backward. [You can also turn the Jog (inner dial) ● to the right or left to move forward or backward along the timeline.]

Along with stars that indicate a marked event, the graphical indicator for recorded video has four colored-coded bars:

Green: Continuous recording

Red: Alarm recording

Blue: Motion recording

Yellow: Manual recording

You can also locate marked or locked video as follows:

Marked Video: The video timeline is marked with a star so that certain video can be located easily in a Quick or Enhanced Search.

Locked Video: The video timeline shows a white line and brackets that reflect the time range for a locked video clip.

PRIMARY FUNCTIONS

Export: Opens the Export dialog box (refer to *Working with Cameras* on page 42).

Lock/Unlock Toggle: Locks selected video from being deleted. Locked video left on the storage drives reduces the system storage capacity. Unlocking video allows it to be overwritten as part of the normal overwrite process. This icon/label changes to Unlock if you move your timeline cursor above a locked clip. If the video clip is large, the cursor may change to a clock during the locking process. A white line and brackets reflect the time range for the locked video clip.

To lock a clip:

1. Move the slider with the mouse [or Jog (inner dial)] to the beginning of the desired period and press Lock.

2. Move the slider to the end time and press Lock again.

To unlock a locked clip:

1. Position the slider on the locked clip (the white line across the recording bar).

2. Select Unlock.

NOTE: As you set the start and end times, the values are displayed in an information bar that appears at the bottom of the screen.

Play: Starts to play back the video from the cursor position along the timeline. The camera, time, and date are displayed above the timeline, and the dialog box remains open.

Close: Closes the Quick Search dialog box. Video continues to play if you previously pressed Play; otherwise, the video pane remains in the same state as when the Quick Search dialog box was opened.

More: Displays the secondary functions in the Quick Search dialog box (Enhanced Search, Mark, and Snapshot).

SECONDARY FUNCTIONS

Enhanced: Closes the Quick Search dialog box and opens the Enhanced Search dialog box (refer to *Enhanced Search* on page 31).

Mark: Places a mark on the video so it can be located easily in a Quick or Enhanced Search (refer to *Marking an Event* on page 35). Mark also updates the Quick Search graph (indicated by a star), and then flashes a message on the information bar to confirm that the marking process is successful.

Snapshot: Stores a snapshot (a still image) on a USB device using the default snapshot format (refer to *Manually Recording Video and Audio* on page 36). A message flashes on the information bar to confirm the capture.

More: Returns you to the primary Quick Search dialog box.

Close: Closes the Quick Search dialog box.

ENHANCED SEARCH

Use the Enhanced Search dialog box to search for recorded video based on the following search criteria:

*   **Time Range:** Allows you to enter a time range to search for video. To help reduce the number of steps required to access common search requests, you can also select the past 24 hours, 3 days, or 7 days.
*   **Cameras:** Searches for video recorded on all cameras, multiple cameras, or a single camera.
*   **Types:** Searches for video recorded based on all types, motion detection or alarms, continuous or manual recordings, and locked or marked video.

PERFORMING AN ENHANCED SEARCH

To perform an enhanced search:

1. In live view mode, press the "M" key [or Menu] to display the Main menu.

2. From the Main menu, select Search/Export. The Search/Export menu appears.

Figure 26. Search/Export Menu

3. Click Enhanced Search [or navigate to Enhanced Search and press Enter/Shift ⏎]. The Enhanced Search dialog box opens.

    NOTE: In live view mode, press the "E" key to bring up the Enhanced Search dialog box.
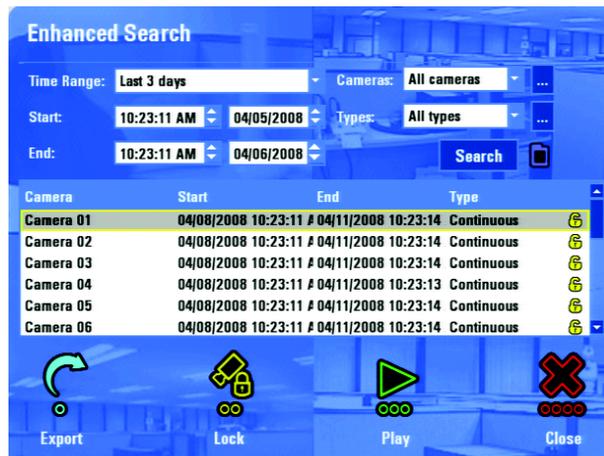
Figure 27. Enhanced Search Dialog Box

4. Click the Time Range box [or navigate to the Time Range box and turn the Jog (inner dial) right or left] to select the time range ("Last 24 hours," "Last 3 days," "Last 7 days," or "Specific time range").

5. If you select "Specific time range," you must select a time and date range for the search as follows:
    *   **Keyboard and mouse:** Click in the Start and End time and date fields and type the specific time range. Or, click the up and down arrows to select the specific time range.
    *   **Control pad:**
        –   Use the Joystick to navigate between time and date boxes. The first field (hours) is selected by default.
        –   Turn the Jog (inner dial) to change the value.
        –   Turn the Shuttle (outer ring) to move to the next field after each change is made.

6. Select a camera or cameras from the Cameras list ("*All Cameras*," "*Multiple cameras*," or individual cameras). If you select "*Multiple cameras*," press Enter [or Enter/Shift (⊿)], or select the ellipsis [...] next to Cameras. The Select Cameras dialog box opens (refer to Figure 28).

    NOTE: By default, all cameras are selected. You must clear the selection for cameras that you do not want to search.
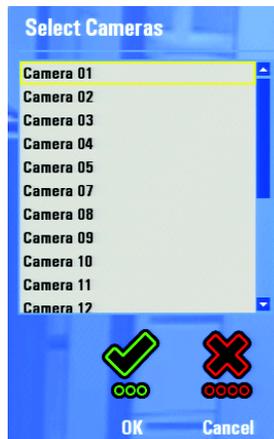
Figure 28. Select Cameras Dialog Box

a. Click the desired cameras [or turn the Jog (inner dial) (⊙) to select a camera and press Enter/Shift (⊿)].

b. Click OK when your list is complete [or navigate to OK and press Enter/Shift (⊿)].

7. Select a video type or types from the Types field (*All Types, Multiple Types, Continuous, Motion, Alarms, Manual, Marked,* and *Locked).* If you select *Multiple Types*, press Enter [or Enter/Shift (⊿)], or select the ellipsis [...] next to Types. The Select Search Type dialog box appears (refer to Figure 29).

    NOTE: By default, all types are selected, as indicated by the gray area of the dialog box (refer to Figure 29).

a. Click the desired recording types for your search [or turn the Jog (inner dial) (⊙) to select the recording types and press Enter/Shift (⊿)].
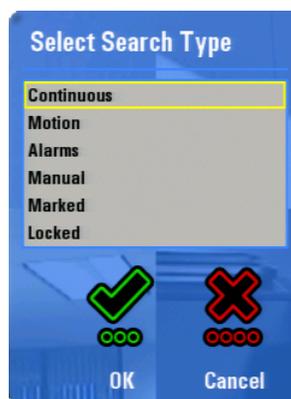
Figure 29. Search Dialog Box

b. Click OK when your list is complete [or select OK, and then press Enter/Shift (⊿)].

8. Click Search [or press Menu (⊡)] to start the search. The Enhanced Search dialog box displays a list of results along with details about each recording (camera name, start and end times, and recording type).

9. Select a recording result [or turn the Jog (inner dial)] ⦿ to select a recording], and then perform any of the following actions:

   a. **Export:** Select Export to export the video to an external storage device. For instructions about exporting video, refer to *Working with Cameras* on page 42.

   b. **Lock:** Select Lock to lock the video so it cannot be overwritten (refer to *Locking and Unlocking a Video Clip* on page 34). This button toggles to Unlock when you select a clip that is already locked.

   c. **Play:** Select Play to view the video (refer to *Playing a Video Clip*).

   d. **Close:** Click Close to close the Enhanced Search dialog box.

   NOTE: You can sort your results by clicking any of the column headings in the Enhanced Search dialog box.

PLAYING A VIDEO CLIP

You can play back recorded video after locating it with either a Quick Search or Enhanced Search. Follow the instructions below to play video from either search function.

To play a video clip located during a quick search:

1. Perform a quick search. Refer to *Performing a Quick Search* on page 29. The Quick Search dialog box appears (refer to Figure 30).

   Instant playback: When viewing live video, you can immediately pause or rewind what you are viewing to easily switch from live to playback. A search is not required.
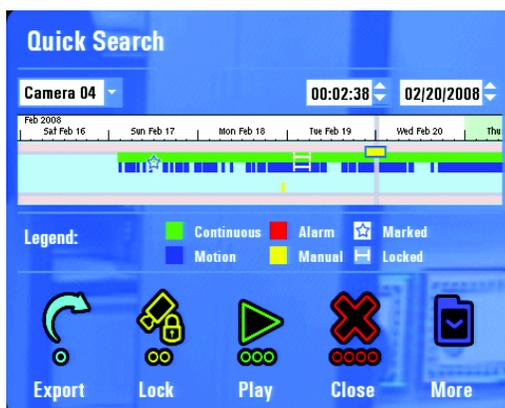
Figure 30. Playing Recorded Video from the Quick Search Dialog Box

2. Turn the Jog (inner dial) ⦿ right or left to select a video clip, and then select Play. The video plays in the currently selected video pane and the dialog box remains open to allow a change in your search. Click Close to close the dialog box and continue video playback.

To play a video clip located during an enhanced search:

1. Perform an enhanced search. Refer to *Performing an Enhanced Search* on page 31. The Enhanced Search dialog box appears with a list of video clips.

2. Select a video clip [or turn the Jog (inner dial) ⦿ right or left to select a video clip] and select Play. The video clip is displayed in the currently selected video pane.

CHANGING THE PLAYBACK SPEED FOR RECORDED VIDEO

While playing back recorded video, you can play the video at several speeds in either a fast-forward or fast-reverse direction.

To change the playback speed for recorded video:

1. Select a video pane that is playing back recorded video (yellow border). Refer to Figure 31.

2. Press > or . (period) to quickly play back video in the forward direction. Press the Shift key while repeatedly pressing > or . (period) to further increase the video speed. [Or, turn the Shuttle (outer ring) ⟳ clockwise to quickly play back video in the forward direction. The farther you turn the Shuttle (outer ring) ⟳ , the faster the video plays.]

Figure 31. Changing Playback Speed

3. Press < or , (comma) to quickly play back video in the reverse direction. Press the Shift key while repeatedly pressing < or , (comma) to further increase the playback speed. [Or, turn the Shuttle (outer ring) ⟳ counterclockwise to quickly play back video in the reverse direction. The farther you turn the Shuttle (outer ring) ⟳ , the faster the video plays. During the desired speed, you can also press Enter/ Shift ⟲ , and then release the Shuttle (outer ring) ⟳ to retain the speed setting.]

NOTE: You can play the video at 2X, 4X, 15X, 60X, or 300X faster than normal speed for video fast-forward and video fast-reverse. The selected playback speed and direction appear in the upper-right corner of the video pane.

4. Release the Shuttle (outer ring) ⟳ to return to the normal forward speed.

5. Press the "L" key [or press "Go to live" ⊙⊙] to return to live view mode.

LOCKING AND UNLOCKING A VIDEO CLIP

You can lock an entire video clip from the Enhanced Search screen. You can also lock a portion of a clip from the Quick Search screen. Locking video clips protects them from being erased when the hard disk is overwritten. A locked video clip remains on the hard disk until:

• The video clip is unlocked.

• Locked video clips are marked for deletion after a certain number of days (set in Recording > Storage > Privacy Settings).

Your system must be configured to delete locked video or it will remain on the hard disk until you unlock it. Contact your system administrator if you need to enable this setting.

To lock a video clip from a quick search:

1. Perform a quick search (refer to *Performing a Quick Search* on page 29).

2. Click in the timeline [or turn the Jog (inner dial) ● to select the start of the locked clip], and then select Lock. This marks the start of the locked clip. An information bar appears indicating the start time and date.

3. Click in the timeline a second time to indicate where you want the locked clip to end. Click Lock again. [Or, turn the Jog (inner dial) ⬤ to select the end of the locked clip, and then select Lock.] A message appears in the information bar displaying the end time and date. The timeline updates to indicate the locked clip.

To lock a video clip from an enhanced search:

1. Perform an enhanced search. Refer to *Performing an Enhanced Search* on page 31. The Enhanced Search dialog box appears (refer to *Enhanced Search Dialog Box* on page 31).

2. Select a video clip [or turn the Jog (inner dial) ⬤ to select a video clip], and then select Lock.

To unlock a video clip:

You can unlock any video clip that has been locked by first performing an enhanced search for locked video.

1. Perform an enhanced search by setting the type to Locked or All Types. Refer to *Performing an Enhanced Search* on page 31.

2. Select a locked video clip [or turn the Jog (inner dial) ⬤ to select a locked video clip], and then select Unlock.

NOTE: You can also unlock a video clip from the Quick Search dialog box. Place the timeline cursor over a locked clip and the Lock icon toggles to Unlock.

MARKING AN EVENT

You can mark an event on a video clip while playing back recorded video. Marking an event on a video clip makes it easier to locate later. Unlike locked video, marked events are overwritten according to the disk overwrite settings for the DVR5100. Follow the instructions below to mark an event.

To mark an event from the Quick Export menu:

1. Play back recorded video. The border around the video pane is yellow.

2. Press F1 [or Quick Export ⬤]. The Quick Export menu appears (refer to Figure 32).
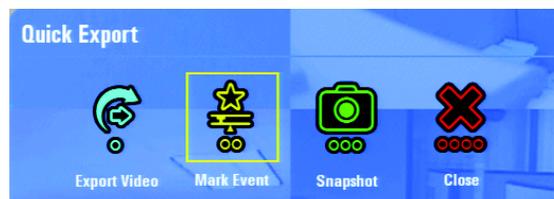
Figure 32. Marking an Event

3. Click Mark Event or press F2 [or press the yellow function button ⬤] to mark the event. A star appears in the timeline for the selected camera the next time you view the Quick Search dialog box or conduct an enhanced search for marked events.

4. Click Close to close the Quick Export menu.

To mark an event from the Quick Search dialog box:

1. In live view mode, select a video pane that is displaying video from a camera.

2. Press the "S" key. Or, from the Main menu, select Search/Export > Quick Search, and then press Enter. The Quick Search dialog box appears.
[Or, press the Quick Search function button for 3 seconds.]

3. Click in the timeline [or turn the Jog (inner dial)] ⬤ to select a time.

4. Click Mark or press F2 [or press the yellow function button ⬤] to mark the event. A star appears in the timeline for the selected camera the next time you view the Quick Search dialog box or conduct an enhanced search for marked events.

5. Click Close to close the Quick Export menu.

MANUALLY RECORDING VIDEO AND AUDIO

The DVR5100 allows you to record video clips while viewing live video and without setting up a recording schedule.

To record a segment of video manually:

1. Right-click in the video pane, or press the "R" key. A shortcut menu appears (refer to Figure 33).

2. Click Record from the shortcut menu. The border around the video pane changes from green to red, signifying that recording is in progress.

Figure 33. Record Dialog Box

To stop the manual recording.

1. Right-click in the video pane. A shortcut menu appears (refer to Figure 34).

Figure 34. Stop Recording

2. Click Stop Recording. The manual recording stops and the border around the video pane changes from red to green (live view mode).

Exporting Video

STARTING AN EXPORT

The DVR5100 allows you to export video as QuickTime® MPEG-4 Files (*.3gp) or Pelco video format (*.pef) and save the file to a USB device, CDROM, or DVD. The default export format is configured by the system administrator for a given user, but this may be changed during the export process. Exported video clips can be very large. Ensure that the media to which you are exporting the video contains sufficient storage space before you begin the export.

There are three paths for exporting a video clip:

- Quick Export menu
- Quick Search dialog box
- Enhanced Search dialog box.

To export a video clip:

1. Select a video pane that is displaying video to be exported (exporting can start in live or playback mode).

2. Press the "X" key [or press the Quick Export function button ⦿] to select Quick Export. The Quick Export menu appears (refer to Figure 35).

Figure 35. Quick Export Menu

3. Click Export Video. The Export Clip dialog box appears (refer to Figure 36).

   NOTE: The following options are the default start and end times:

   - **Arriving from Live:** The previous 10 minutes.
   - **Arriving from Quick Search:** The currently selected time on the timeline plus 10 minutes forward.
   - **Arriving from Enhanced Search:** The whole video clip, defined by the video clip's start and end times.
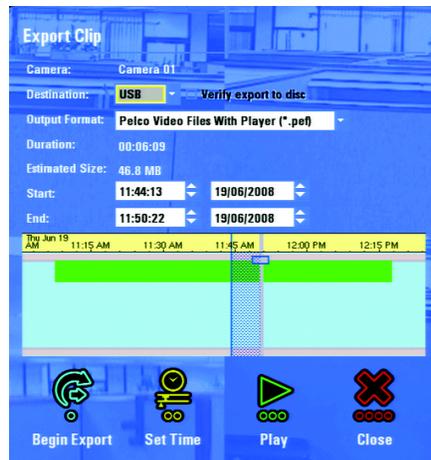
Figure 36. Export Clip Dialog Box

4. Select your destination (CD/DVD or USB device).

5. Select the output format: Pelco Video File with Player (*.pef), Pelco Video File without Player (*.pef), or QuickTime MPEG-4 Files (*.3gp).
   NOTE: When exporting in the MPEG-4 format, the system will not export associated audio, the time and date stamp, or the digital signature required to authenticate a clip.

6. To select the video time frame to be exported, perform one of the following actions:
   - Click and drag the gray bar in the timeline [or turn the Jog (inner dial) ⬤] to adjust the end time. The vertical blue bar represents the start time and is fixed. If you drag the gray bar to the left of the blue bar, the gray bar becomes your start time indicator, and the blue bar indicates the end time.
   - Type [or select] the desired start times, end times, and dates in the Start and End time and date fields.

   NOTE: Clicking in the timeline and selecting Set Time resets the timeline cursor (start and end time markers) to the selected point. You can then click another point in the timeline to set the end time, indicated by the gray vertical bar. This allows you to reset the desired video time frame for export. Click the timeline, and then drag it to the left or right to select the video clip. [You can also select Set Time by pressing the yellow function button ⬤].

7. Select Begin Export. The video export begins if a USB storage device is present.

   NOTE: If a USB storage device is not present, the following dialog box appears (refer to Figure 37). Insert the storage device, and then select OK. The Export Clip dialog box appears. Select Begin Export again.

Figure 37. Request for Storage Device

8. The information bar displays "Starting Export," and then displays a progress bar indicating the status of the export. An information bar will display Export Complete once the video clip is exported to the USB device.

CANCELING AN EXPORT IN PROGRESS

An export in progress can be canceled only by clicking Export again, either from the Quick Export menu (accessed from the front panel), the Quick Search dialog box, or the Enhanced Search dialog box.

To cancel an export:

1. Press F1 [or the Quick Export function button ⬤]. The Quick Export dialog box appears.

2. Click Export Video [or press the blue function button ⬤]. The "Export in Progress" dialog box appears (refer to Figure 38).

Figure 38. Stop Export Dialog Box

3. Click Stop [or press the red function button ⬤] to stop the export. If you want to continue the export, Click Continue [or press the green function button ⬤]. You will be returned to the Export Clip dialog box.

4. Click Close [or press the red function button ⬤]. You will be returned to the original dialog box (Quick Export, Quick Search, or Enhanced Search).

CAPTURING A SNAPSHOT (STILL IMAGE)

All snapshots are saved in a default folder labeled "images," which is created automatically on a USB device. You must attach a USB device to the DVR5100 before you capture a snapshot. If a USB device is not attached, an error message appears and the snapshot is not saved.

To capture a snapshot:

1. Attach a USB device to the unit in any of the USB ports.

2. Select a video pane that is displaying video from which you want to capture a snapshot, and then perform one of the following actions:
   - Press the Print Scrn key.

   - Press the "X" key [or press the Quick Export function button] to display the Quick Export menu (refer to Figure 39), and then select Snapshot.

   - Press the "S" key [or press the Quick Search function button] to display the Quick Search menu, and then select Snapshot.

Figure 39. Selecting Snapshot from the Quick Export Menu

A snapshot is saved to the USB device and a message appears in the information bar confirming the save. Repeat one of these steps as many times as necessary.

3. Click Close to close the Quick Export or Quick Search menu.

NOTE: You can also capture a snapshot from the Main menu by selecting Search/Export > Snapshot.

Working with Alarms

Each time an alarm occurs, the DVR5100 displays an Alarm Received dialog box, which allows you to respond immediately to the event or elect to have the alarm event snoozed for a specified amount of time (refer to Figure 40). An alarm event must be acknowledged or snoozed before it disappears from the screen. The alarm details might provide instructions on how to respond to the alarm event.

NOTE: The DVR5100 can also generate an e-mail for a specific alarm event. Contact your system administrator to verify that your system is configured to send automatic e-mail messages about alarms.
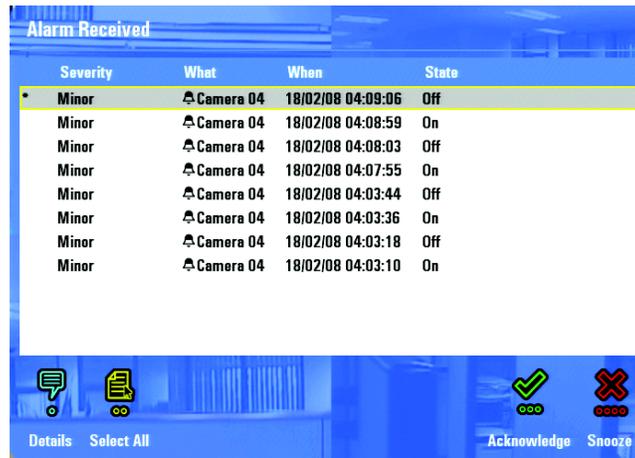
Figure 40. Acknowledging an Alarm

ACKNOWLEDGING AN ALARM EVENT

If there are several alarms displayed on the Alarm Received dialog box (refer to Figure 40), you can acknowledge all alarms at the same time. By default, all new alarms are selected at the same time. All alarms are acknowledged when you select Acknowledge.

To acknowledge an alarm event, click the Acknowledge button. [Or, navigate to the Acknowledge button and press Enter/Shift ( ).] The Alarm Received dialog box is closed and the acknowledgement is recorded in the system log.

SNOOZING AN ALARM EVENT

The DVR5100 allows you to postpone responses to an alarm event for a specified time period. Referred to as "snooze," the alarm redisplays after the snooze time expires.

To snooze an alarm event:

1. Select an alarm while the Alarm Received dialog box is displayed (refer to Figure 41).

Figure 41. Snoozing an Alarm

2. Click Snooze ✖ . [Or, navigate to Snooze and press Enter/Shift ⬅, or press the red function button ⬤]. The Alarm Received dialog box is closed and the snooze action is recorded in the system log (refer to Figure 42). After a delay, the alarm notification reappears with a clock icon indicating that the alarm was previously snoozed.

Figure 42. System Log

VIEWING DETAILS

To view alarm message details:

1. Click each alarm received and press the F1 key to open the relevant Alarm Information dialog box. The Alarm Information dialog box appears (refer to Figure 43). [Or, turn the Jog (inner dial) ⬤ to select a single alarm, and then press the blue function button ⬤].

NOTE: You must select a single alarm if you want to review its details.

Figure 43. Alarm Information

2. Review the details about the alarm, and then click Close. [Or, press the red function button ⬤ to close the dialog box].

Working with Cameras

This section describes how to work with cameras attached to the DVR5100.

ACCESSING CAMERA MENUS

Many settings for different cameras can be programmed to fit your specific needs. You can display menus and adjust camera settings from the DVR5100 if your user role has permissions to do so. Although you can program patterns and presets from some camera menus, for best results use the DVR5100 remote client application to program these operations.

⚠ **WARNING:** Among the available menu options are commands to restart or turn off a camera. Restarting or turning off a camera stops all video recording in progress. Check with your system administrator before you restart or turn off a camera that might be in use by other system users.

To access a camera menu:

1. In the live view mode, select a video pane that is displaying a camera for which you want to view its on-screen menu. Refer to *Viewing a Specific Camera* on page 21.

   The border of the video pane should be green. If the border is blue (PTZ mode), you cannot access the camera menu. Press Enter [or Enter/Shift (⬅)] to change the mode from PTZ mode to live view mode.

2. Press the "M" key [or Menu (⬛)]. The DVR5100 Main menu appears.

3. Click Cameras [or move to Cameras using the Joystick (●) and press Enter/Shift (⬅)].

4. Click Camera Menu [or move to Camera Menu using the Joystick (●) and press Enter/Shift (⬅)]. The settings menu for the camera appears (refer to Figure 44). The list of options varies for each camera type. For example, Figure 44 shows the Main menu for a Pelco Spectra III™ camera.

Figure 44. Camera Settings Menu Example

5. Navigate the menu as follows:
   - Use the mouse or the keyboard up and down arrows [or the Joystick (●)] to move through the list of menu options and the list of settings for each option.
   - Press Enter [or Enter/Shift (⬅)] to select or accept an option or a setting.
     NOTE: You cannot undo a change once you have made this selection.
   - To return to a previous menu in the Camera Settings menu, click Back [or move to Back using the Joystick (●) and press Enter/Shift (⬅)].

6. After you have modified the camera settings, press the red function button (●●●●). The Camera Settings menu disappears and the video pane returns to live view mode (green border).

NOTE: Selecting EXIT will not clear the Camera Settings menu.

ADJUSTING THE AUDIO VOLUME

To adjust the audio level (for cameras that support audio):

1. Select a video pane.

2. Hold down the Control key and press the right arrow key to raise the audio level, or press the left arrow key to lower the audio level.

[Or, hold down Enter/Shift (●) and turn the Jog (inner dial) (●) to the right to raise the audio level, or turn it to the left to lower the audio level].

ADJUSTING THE IRIS

To adjust the iris:

1. In live view mode, use the arrow keys [or the Joystick (●)] to select a video pane that is displaying video from a camera requiring an iris adjustment. The selected pane is highlighted by a green border.

2. Press the "M" key [or Menu (●)]. The Main menu appears.

3. Click Cameras [or Navigate to Cameras and press Enter/Shift (●)]. The Cameras menu appears.

4. On the Cameras menu, click Iris. The Iris dialog box appears (refer to Figure 45).
[Or, navigate to Iris and press Menu (●) or the red function button (●●●●)].
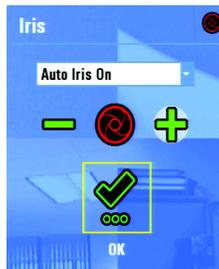
Figure 45. Iris Dialog Box

5. In the Iris list, click Auto Iris Off; the default setting is Auto Iris On.

[Or, navigate to the Iris box and turn the Jog (inner dial) (●) to set the Iris mode to Auto Iris Off.]

6. Navigate to the Iris Plus (+) or Minus (-) signs and perform one of the following actions:
   - To open the iris, turn the Shuttle (outer ring) (○) clockwise. As an alternative, press and hold the Plus button to open the iris until it reaches its limit (refer to Figure 46).

Figure 46. Open Iris Control

- To close the iris, turn the Shuttle (outer ring) ⬭ counterclockwise. As an alternative, press and hold the Minus button to close the iris until it reaches its limit (refer to Figure 47).

Figure 47. Close Iris Control

7. Click OK [or press Enter/Shift ⬭ or the green function button ⬭] to close the Iris dialog box.

ADJUSTING THE FOCUS

To adjust the focus:

1. In the live view mode, select a video pane that is displaying video from a camera requiring an iris adjustment. The selected pane is highlighted by a green border.

2. Press the "M" key [or press Menu ⬭]. The Cameras menu appears.

3. Select the Focus button, and then click OK [or press Enter/Shift ⬭ or the red function button ⬭]. The Focus dialog box appears (refer to Figure 48).

Figure 48. Focus Dialog Box

4. Navigate to the option box. By default, the focus mode is set to Auto Focus On.

5. Click the Focus arrow [or turn the Jog (inner dial) ⬭] to set the focus mode to Auto Focus Off.

6. Move to the focus Plus (+) or Minus (-) signs, and then perform one of the following options:

- To focus on an object, click the Plus (+) sign [or turn the Shuttle (outer ring) ⬭ to the right]. The Plus (+) sign is highlighted by a circle, indicating the direction of the change (refer to Figure 49). As an alternative, press and hold the Plus button.

Figure 49. Focus on an Object

- To focus away from an object, click the Minus sign [or turn the Shuttle (outer ring) ⊙ to the left]. The Minus sign (-) is highlighted by a circle, indicating the direction of the change (refer to Figure 50). As an alternative, press and hold the Minus button.

Figure 50. Focus Away from an Object

7. Click OK [or press Enter/Shift ⊙ or the green function button ⊙] to close the Focus dialog box.

Working with Scripts and Relays

EXECUTING SCRIPTS

A script is like a macro, but it provides much more power and flexibility. Scripts can be used to control most system functions and may be combined in almost any order.

NOTE: Scripts can be set up only in the remote client.

To start or stop a script:

1. From the Main menu, click Actions [or press the yellow function button ⊙]. The Actions menu appears.

2. From the Actions menu, click Scripts [or press the blue function button ⊙].

3. When the Execute Script dialog box appears, click a script from the list [or turn the Jog (inner dial) ⊙ to scroll through and select a script from the list]. Refer to Figure 51.

4. Perform one of the following actions:

    • To start a script, click Execute [or press the green function button ⊙].

    • To stop a script, press the F2 key [or the yellow function button ⊙]. The Clear icon is available only when a script is running.

    • To close the dialog box without running a script, click Close [or press the red function button ⊙].
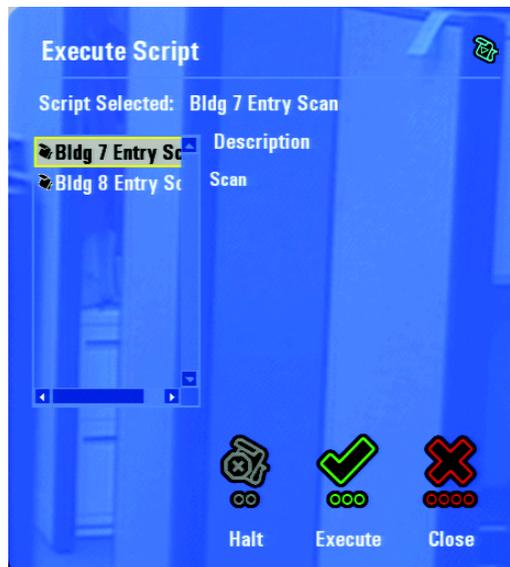
Figure 51. Execute Script Dialog Box

5. If no scripts have been set up, the following dialog box appears (refer to Figure 52):
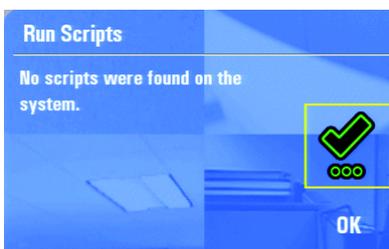
Figure 52. No Scripts Found Dialog Box

EXECUTING RELAYS

The DVR5100 can be used to activate relay outputs manually, connecting DVR5100 devices to other external devices. A relay can be activated for a predetermined period of time (the dwell time) or can remain latched until there is another signal to release the relay.

To execute a relay:

1. From the Main menu, select Actions. The Actions menu appears.

2. From the Actions menu, click Relays [or navigate to Relays and press Enter/Shift]. The Execute Relays dialog box appears (refer to Figure 53).
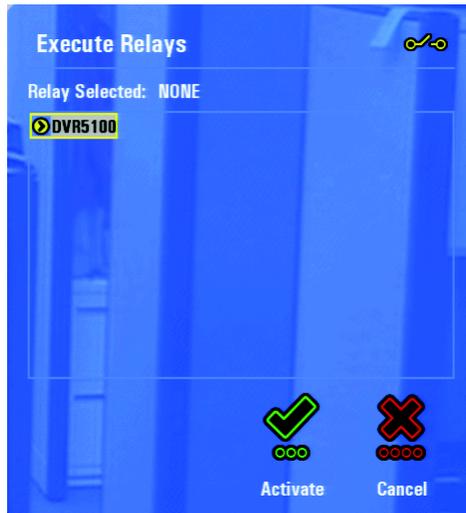
Figure 53. Activate Relay Dialog Box

3. Click a relay from the list. [Or, turn the Jog (inner dial) to select a relay from the list.]

4. Click Activate. [Or, navigate to Activate and press Enter/Shift].

5. To cancel the selection without activating the relay, click the Cancel button [or press the red function button]. The Execute Relays dialog box appears.

ACTIVATING AUXILIARY COMMANDS (WIPER)

A DVR5100 command can activate a wiper on cameras equipped with this feature. The DVR5100 ignores the command if a camera does not support it.

To activate the wiper command using the keyboard/mouse or the control pad:

1. In live view mode, select a video pane that is displaying video from a camera with a wiper. The video pane border is green.

2. From the Main menu, click Actions. [Or, select Actions and press Enter/Shift ⊙.] The Actions menu appears.

3. Select Auxiliary [or press the red function button ⬤].

4. Repeat the command as often as necessary.

To activate the wiper command using the shortcut menu:

1. Right-click in the video pane of the desired camera. A shortcut menu appears (refer to Figure 54).
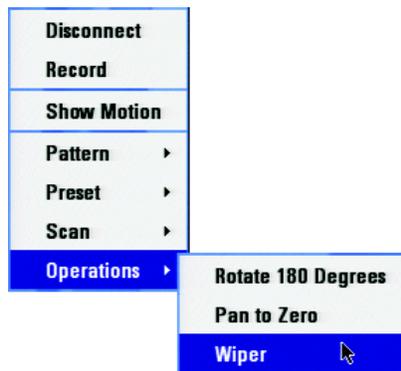

Figure 54. Wiper Submenu

2. Click Operations > Wiper.

3. Repeat the command as often as necessary.

Appendix A: Front Panel Indicators

Figure 55 shows the DVR5100 front panel.
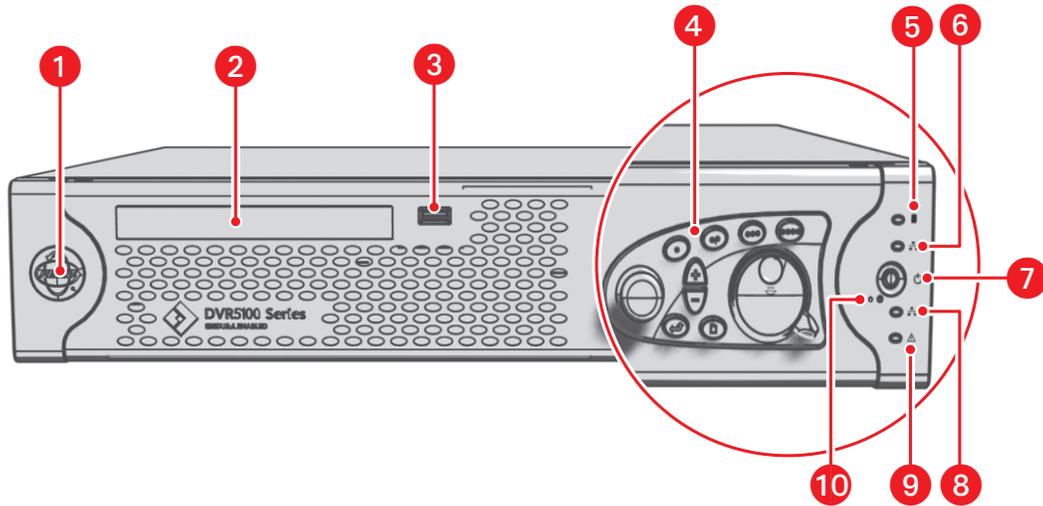
Figure 55. DVR5100 Front Panel Indicators

Table H lists the DVR5100 front panel controls and indicators:

Table H. DVR5100 Front Panel Features

❶ **Pelco Badge (power indicator)** :

The Pelco badge, on the left side of the unit, glows blue when the unit has power. Behind the front bezel, the power indicator LED is white.

❷ **DVD:** The DVD drive allows you to import/export video to and from the DVR, and it allows you to load/install DVR software updates.

❸ **USB Port:** Connect the USB PC keyboard and mouse, or insert a USB device to capture snapshots and exported video clips.

❹ **Control Pad:** Controls the basic unit operations with the following features: function buttons, Joystick, Plus (+) and Minus (-), Enter/Shift, Menu, Jog (inner dial), and Shuttle (outer ring).

❺ **Hard Disk Drive Indicator** : The hard disk drive (HDD) status indicator flashes yellow when there is HDD activity.

❻ **Network Activity Indicator** : The network activity indicator flashes green when the unit is sending or receiving network data.

❼ **Power Button** : Use the power button to turn the unit on or off.

❽ **Network Status Indicator** : The network status LED indicates the network connection and speed. It may display one of the following conditions:
- **Off:** The unit is not connected to the network.
- **Solid Green:** The unit is connected to the network using the 1000Base-T standard.
- **Solid Yellow:** The unit is connected to the network using the 100Base-T standard.
- **Solid Red:** The unit is connected to the network using the 10Base-T standard.

❾ **Unit Status Indicator** : The unit status is indicated by one of the following three colors:
- **Green:** The unit is functioning normally.
- **Yellow:** The unit is in configuration mode.
- **Red:** The unit is in an error condition.

❿ **Configuration/Reset Key:** Reserved for future use.

PRODUCT WARRANTY AND RETURN INFORMATION

WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship **for a period of one year** after the date of shipment.

Exceptions to this warranty are as noted below:

- Five years:
  - Fiber optic products
  - TW3000 Series unshielded twisted pair (UTP) transmission products
  - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
  - Pelco-branded fixed camera models (CCC1390H Series, C10DN Series, C10CH Series, and IP3701H Series)
  - EH1500 Series enclosures
  - Spectra® IV products (including Spectra IV IP)
  - Camclosure® Series (IS, ICS, IP) integrated camera systems
  - DX Series digital video recorders, DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
  - Endura® Series distributed network-based video products
  - Genex® Series products (multiplexers, server, and keyboard)
  - PMCL200/300/400 Series LCD monitors
- Two years:
  - Standard motorized or fixed focal length lenses
  - DF5/DF8 Series fixed dome products
  - Legacy® Series integrated positioning systems
  - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, and PS20 scanners, including when used in continuous motion applications.
  - Esprit Ti and TI2500 Series thermal imaging products
  - Esprit and WW5700 Series window wiper (excluding wiper blades).
  - CM6700/CM6800/CM9700 Series matrix
  - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
  - Intelli-M® eIDC controllers
- One year:
  - Video cassette recorders (VCRs), except video heads. Video heads will be covered for a period of six months.
- Six months:
  - All pan and tilts, scanners, or preset lenses used in continuous motion applications (preset scan, tour, and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to a Pelco designated location. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental, or consequential damages (including loss of use, loss of profit, and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, sales order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product that does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

RETURNS

To expedite parts returned for repair or credit, please call Pelco at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair) and designated return location.

All merchandise returned for credit may be subject to a 20 percent restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid.

11-11-08

⊠Green   The materials used in the manufacture of this document and its components are compliant to the requirements of Directive 2002/95/EC.

This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.

REVISION HISTORY

Manual #	Date	Comments
C1696M	8/06	Original version.
C1696M-A	7/08	Added new menus and options for easier configuration; the inclusion of and instructions for a USB PC keyboard and mouse; support of IP cameras for hybrid recording capability; and integration into an Endura network.
C1696M-B	11/08	Updated information to reflect the latest feature set.

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